ESIROI
ÉCOLE D'INGÉNIEURS
UNIVERSITÉ DE LA RÉUNION

DEPARTMENT : *IT*
SEMESTER : *S9*

IDENTIFICATION

Course code : SEC901
ECTS : 3

DURATION

Lectures :	10
Tutorial classes :	8
Labs :	6
Total :	24

Project :
Personnal work :

ASSESSMENT

A knowledge assessment and a lab report.

TEACHING MATERIALS

Slides and practical work sheets.

LANGUAGE

English

CONTACT

Tahiry RAZAFINDRALAMBO
tahiry.razafindralambo@univ-reunion.fr

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UE : UE9-Ressources

COURSE : Cybersecurity : Reverse Engineering and Exploit Development

SCOPE OF THE COURSE

OBJECTIVES

Apply reverse engineering and forensic techniques to reconstruct the timeline of an attack in the context of a digital forensics investigation.

COMPETENCE AND SKILLS

- Define and implement a security organization and policy tailored to identified risks (1.5)-(3.4)
- Design, develop, and implement mechanisms to protect data, software, networks, and cloud systems (1.5)-(3.4)
- Define and conduct a risk analysis based on documentation, offensive cybersecurity campaigns, and regulatory frameworks (1.5)-(3.4)

PROGRAM

- Apply a forensic investigation technique in a digital forensics scenario.
- Compare commercial and open-source forensic tools.
- Reconstruct a timeline using information extracted from a device under analysis.
- Use forensic tools specific to major mobile operating systems.
- Detect and analyze encrypted content.
- Use a binary analysis tool and/or a disassembler to analyze malware (reverse engineering).
- Laboratory procedures for handling malware.

BIBLIOGRAPHY

REQUIREMENTS

Cybersecurity, systems and networks, and programming modules from previous semesters.